**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

1. (Currently Amended) Method of determining refractive index of an object compared to a refractive index of a surrounding medium, ~~characterized by~~ wherein exposing said sample to a laser object beam and letting the object beam interfere with a laser reference beam to obtain a hologram, analyzing the hologram for phase information, determining if the refractive index of the object is higher or lower than the refractive index of the surrounding medium based on said phase information.

2. (Currently Amended) The method as claimed in claim 1, ~~characterized in that~~ wherein said analyzing and determination are performed by a computer.

3. (Currently Amended) The method as claimed in claim 1 ~~or 2, characterized by~~ wherein said object comprising particles of a first sub- stance having a first refractive index and a second sub- stance having a second refractive index and a medium having a refractive index between said first and second refractive index; counting the number of particles having a first refractive index and counting the number of particles having a second refractive index in a specific area of said sample.

4. (Currently Amended) A device for determining refractive index of an object compared to a refractive index of a surrounding medium, ~~characterized by~~ wherein a laser source for exposing said sample to a laser object beam and letting the object beam interfere with a laser reference beam to obtain a hologram, a computer for analyzing the hologram for phase in- formation, and for determining if the refractive index of the object is higher or lower than the refractive index of the surrounding medium based on said phase information.

5. (Currently Amended) The device as claimed in claim 4, ~~characterized in that~~ wherein said object comprising particles of a first sub- stance having a first refractive index and a

second sub- stance having a second refractive index and a medium having a refractive index between said first and second refractive index; and said computer is arranged to count the number of particles having a first refractive index and the number of particles having a second refractive index.

6. (Currently Amended) Computer program arranged on a tangible medium for execution on a computer for performing at least one of the method steps ~~of any one of claims 1 to 3~~ claim 1.

7. (Currently Amended) Use of the method of ~~any one of claims 1 to 3~~ claim 1 for the separation and counting particles in a particle blend.

8. (Currently Amended) Use of the method of ~~any one of claims 1 to 3~~ claim 1 for calculating the volume ratio between particles in a particle blend.